JC17 Rec'd PCT/PTO 28 JUN 2005 IN THE CLAIMS

1. (Original) A radiation-sensitive resin composition comprising

an acid-labile group-containing resin which is insoluble or scarcely soluble in alkali, but becomes alkali soluble by the action of an acid, and

a photoacid generator,

wherein the acid-labile group-containing resin comprises a recurring unit of the following formula (1) and has a ratio of a weight average molecular weight to a number average molecular weight (weight average molecular weight/number average molecular weight) of smaller than 1.5 and is polymerized with a living radical polymerization initiator,

$$\begin{array}{c|c}
R^1 & R^1 \\
\hline
-C & C \\
R^1 & C = 0
\end{array}$$

$$\begin{array}{c|c}
C - R^2 \\
R^2 & R^2
\end{array}$$

(1)

wherein R¹ individually represents a hydrogen atom, methyl group, trifluoromethyl group, or hydroxymethyl group and R² individually represents a monovalent alicyclic hydrocarbon group having 4-20 carbon atoms or a derivative thereof, or a linear or branched alkyl group having 1-4 carbon atoms, in which at least one of R² groups is a monovalent alicyclic hydrocarbon group or a derivative thereof, or any two of R² groups form a divalent alicyclic hydrocarbon group having 4-20 carbon atoms or a derivative thereof in combination with the carbon atom to which the two R²

groups bond, with the remaining R² group being a linear or branched alkyl group having 1-4 carbon atoms or a monovalent alicyclic hydrocarbon group having 4-20 carbon atoms or a derivative thereof.

2. (Original) The radiation-sensitive resin composition of claim 1, wherein the acid-labile group-containing resin comprises a recurring unit of the formula (1) and at least one recurring unit selected from the group consisting of the recurring units of the following formulas (2)-(7),

wherein R¹ individually represents a hydrogen atom, methyl group, trifluoromethyl group, or

hydroxymethyl group, A represents a single bond, a substituted or unsubstituted, linear or branched alkylene group having 1-6 carbon atoms, a mono- or dialkylene glycol group, or an alkylene ester group, B represents a single bond, a substituted or unsubstituted alkylene group having 1-3 carbon atoms, an alkyloxy group, or an oxygen atom, E represents a single bond or a divalent alkyl group having 1-3 carbon atoms, R³ individually represents a hydroxyl group, cyano group, carboxyl group, -COOR⁵, or -Y-R⁶, wherein R⁵ represents a hydrogen atom, a linear or a branched alkyl group having 1-4 carbon atoms, or an alicyclic alkyl group having 3-20 carbon atoms, Y individually represents a single bond or a divalent alkylene group having 1-3 carbon atoms, R⁶ individually represents a hydrogen atom, hydroxyl group, cyano group, or -COOR⁷, provided that at least one R³ group is not a hydrogen atom, R⁷ represents a hydrogen atom, a linear or branched alkyl group having 1-4 carbon atoms, or an alicyclic alkyl group having 3-20 carbon atoms, G represents a single bond, a linear or branched alkylene group having 1-6 carbon atoms, an alicyclic hydrocarbon group having 4-20 carbon atoms, an alkylene glycol group, or an alkylene ester group, J, L, N, and M individually represent a single bond, a substituted or unsubstituted, linear, branched, or cyclic alkylene group having 1-20 carbon atoms, an alkylene glycol group, or an alkylene ester group, p is 0 or 1, R⁴ represents a hydrogen atom, a linear or branched alkyl group having 1-4 carbon atoms, an alkoxy group, a hydroxyalkyl group, or a divalent alicyclic hydrocarbon group having 3-20 carbon atoms or a derivative thereof, and q is 1 or 2.

3. (Original) The radiation-sensitive resin composition of claim 2, wherein the acid-labile group-containing resin comprises the recurring unit of the formula (2), at least one of the recurring units of the formula (2) to (7).

- 4. (Currently Amended) The radiation-sensitive resin composition according to either claim claim 2 or claim 3, wherein the content of the recurring unit (1) is 15-70 mol% of the total amount of the recurring units.
- 5. (Original) The radiation-sensitive resin composition according to claim 4, wherein the acid-labile group-containing resin is a polymer produced by random polymerization of the recurring units which form the resin.
- 6. (Original) The radiation-sensitive resin composition according to claim 1, wherein the living radical polymerization initiator is a mixture of a transition metal complex, an organic halide, and a Lewis acid or an amine.
- 7. (Original) The radiation-sensitive resin composition according to claim 1, wherein the living radical polymerization initiator is a compound of the following formula (8),

wherein R' represents an alkyl group or an aryl group having 1-15 carbon atoms which may contain an ester group, ether group, amino group, or amide group; Y represents a single bond, oxygen atom, nitrogen atom, or sulfur atom; and R" represents an alkyl group or an aryl group having 1-15 carbon atoms which may contain an ester group, ether group, or ammo group.

- 8. (Currently Amended) The radiation-sensitive resin composition according to either claim claim 6 or claim 7, wherein terminal processing of the living radical polymerization initiator is conducted using a heat radical generator.
 - 9. (Original) The radiation-sensitive resin composition according to claim 1, wherein

the photoacid generator comprises at least one compound selected from the group consisting of a triphenylsulfonium salt compound, a 4-cyclohexylphenyldiphenylsulfonium salt compound, a 4-t-butylphenyldiphenylsulfonium salt compound, and a tri(4-t-butylphenyl)sulfonium salt compound.

- 10. (Original) The radiation-sensitive resin composition according to claim 1, further comprising a nitrogen-containing organic compound as an acid diffusion controller.
- 11. (New) The radiation-sensitive resin composition according to claim 3, wherein the content of the recurring unit (1) is 15-70 mol% of the total amount of the recurring units.
- 12. (New) The radiation-sensitive resin composition according to claim 7, wherein terminal processing of the living radical polymerization initiator is conducted using a heat radical generator.